Applicant's respectfully submit that the Advisory Action's definition and interpretation of operation for the diffraction grating of Park are in error.

First, as noted in the previous response, the movement of the diffraction grating of Park in an optical axis direction merely changes the respective points at which the different orders of light fall on collimator lens 14.

Once the light is incident on the collimator lens 14 the light is preferably collimated and thereafter proceeds as separate rays of light, i.e., at the point a 0^{th} order light is incident on the collimator lens 14, the collimator lends 14 outputs a ray that is parallel with a collimated light ray from another order of light incident on a different position of the collimator lens 14. *A purpose of the collimator lens is to collimate light so that exiting light rays are parallel.*

Thus, rather than focusing the different orders of light onto different portions of the photo-detecting element, the optical-axial movement of the diffraction grating of Park changes the position on the collimating lens where the respective orders of light fall, resulting in differently positioned parallel rays of light exiting the collimating lens.

Further, counter to the indication in the Advisory Action and the previous Final Office Action, the diffraction grating of Park **cannot** be considered as focusing light emitted by the light source.

Diffraction gratings change directions of light, and the diffraction grating of Park changes the direction of incident light three different ways.

There is no focal point for such diffraction gratings, and thus cannot be interpreted as "focusing" light.

Rather, 0^{th} order light that exits the diffraction grating travels along a first direction, $+1^{th}$ order light exits the diffraction grating along a second direction, and the -1^{th} order light exits the diffraction grating along a third direction.

As defined by Telecommunications: Glossary of Telecommunication Terms, Federal Standard-1037C, a diffraction grating is:

> An array of fine, parallel, equally spaced grooves ("rulings") on a reflecting or transparent substrate, which grooves result in diffractive and mutual interference effects that concentrate reflected or transmitted electromagnetic energy in discrete directions, called "orders," or "spectral orders." Note 1: The groove dimensions and spacings are on the order of the wavelength in question. In the optical regime, in which the use of diffraction gratings is most common, there are many hundreds, or thousands, of grooves per millimeter. Note 2: Order zero

corresponds to direct transmission or specular reflection. Higher orders result in deviation of the incident beam from the direction predicted by geometric (ray) optics... Note 3: Because the angle of deviation of the diffracted beam is wavelength-dependent, a diffraction grating is dispersive, i.e., it separates the incident beam spatially into its constituent wavelength components, producing a spectrum. Note 4: The spectral orders produced by diffraction gratings may overlap, depending on the spectral content of the incident beam and the number of grooves per unit distance on the grating. The higher the spectral order, the greater the overlap into the next-lower order. Note 5: By controlling the cross-sectional shape of the grooves, it is possible to concentrate most of the diffracted energy in the order of interest. This technique is called "blazing."

The diffraction grating of Park would appear to be no more than such an array of fine, parallel, equally spaced rulings. The 0^{th} order light may proceed through the diffraction grating, while the $+-1^{th}$ orders would be re-directed in slightly different directions tending away from the ray of light corresponding to the 0^{th} order.

As stated in Park, the diffraction grating "splits" the light.

Regardless, the diffraction grating of Park redirects light in non-focused directions, i.e., 0^{th} order light is not focused, and in fact may not change in direction at all, and the $+-1^{th}$ order lights would each be directed in different directions. Accordingly, except for the 0^{th} order, each order of light may merely be caused to be redirected in a slightly different direction.

In this manner, as taught by Park, if the diffraction grating is moved toward the beam splitter, and thus closer to collimating lens 14, the light rays of the $+-1^{th}$ order light would hit the collimating lens 14 at positions closer toward the axial center of the collimating lens.

Likewise, if the diffraction grating of Park was moved away from the beam splitter, and thus away from the collimating lens 14, the light rays of the $+-1^{th}$ order light would hit the collimating lens 14 at positions farther away from the axial center of the collimating lens.

Such different incident positions of the collimating lens 14 results in the beam spots on the photo-detection element to be either toward the central 0^{th} order light ray or away from the 0^{th} order light ray.

However, there is no focusing involved with the light spots on photo-detection element. Upon exit from the collimating lens 14, each light ray is a parallel light beam. Any focusing after the collimating lens 14 is not caused by movement of the diffraction grating toward or away from the beams splitter and collimating lens 14.

Accordingly, first, regardless of the movement of the diffraction grating in Park each of the 0th and +-1th order light beams are already focused for the photo-detecting elements. Thus, the diffraction grating does not perform any focusing with regard to the beam spots on the photo-detecting elements.

Secondly, as noted above, any movement of the diffraction grating away or toward the beam splitter and collimating lens 14, to move the +-1th order incident light spots incident on the collimating lens away or towards the axial direction of the collimating lens, cannot be considered a focusing of light. Each order of light is merely caused to be directed in a different direction.

Thus, movement of the incident light spot on the collimating lens 14 is not a focusing, and, thus, the diffraction grating of Park can not be considered a focusing element. By itself, the diffraction grating of Park cannot be considered a focusing element.

Accordingly, the Office Action and Advisory Action interpretation of Park as setting forth a hologram focusing element are not correct.

With all independent claims including such a focusing aspect, it is respectfully requested that the Finality of the outstanding Office Action be withdrawn and all claims allowed.